

REMARKS

Applicant has considered all points made by the Examiner in the Office Action and has responded to same in order to ensure compliance with the applicable rules.

Claim 10 has been previously cancelled.

Claims 1 – 9 and 11 – 24 are pending.

1. Section 103 Rejection – Woodland in view of Ward.

Claims 1-6, 8-9, 11, 12, 15-18, and 21-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woodland (U.S. Patent No. 6,056,237) in view of Ward (U.S. Patent No. 2,843,342).

In determining the propriety of a case for obviousness, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed substitution, combination or other modification. *In re Lintner*, 458 F.3d 1013, 173 USPQ 560, 562 (CCPA 1972). The burden of making a prima facie case of obviousness is only met by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). “[T]he consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success.” *Rockwell Int'l Corp. v. United States*, 147 F.3d 1358, 47 USPQ2d 1027, 1033 (Fed. Cir. 1998). Further, “[t]o establish a prima facie case of obviousness ... the prior art reference (or references when combined) must teach or suggest all the claim limitations.” M.P.E.P. § 2143; see *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

a. The Combination of Woodland and Ward Does not Teach All Elements.

Applicants' claims 1 and 24, as amended, call for an airborne vehicle with wings adapted to be removed from the fuselage, a launch system including a launch rail, and a container to hold the airborne vehicle and the launch rail. Applicants' claims 1 and 24, as amended, also call for a carriage which is in slidable receipt with the launch rail and that engages the airborne vehicle at

the fuselage. Applicants' claim 24 calls for shear pins for engaging the airborne vehicle to the carriage.

Woodland lacks any sort of carriage. Neither Woodland nor Ward disclose wings that are adapted to be removed from the fuselage. Woodland does not disclose a carriage and Ward does not disclose a carriage engaging the fuselage. Rather, in Ward, the thrust is transmitted to the aircraft through a strap looped around the nose of a bucket and through cables connected between the strap and the aircraft. (Ward, Col 4, Lines 61-64).

Woodland discloses no engagement with the airborne vehicle. Ward does disclose vertical supports (Item 83) but those vertical supports are insufficient to meet the function of the shear pins of Applicants' invention. Because the Ward vertical supports do not engage the fuselage of the airborne vehicle, they do not contemplate and are incapable of preventing forward motion of the vehicle. The only purpose of the Ward vertical supports is to prevent the vehicle from tipping on its side.

In contrast, in Applicant's invention, the shear pins (352B and 352C) serve to hold the airborne vehicle on the carriage while the carriage is stationary and the plane is running. The shear pin (352B) prevents the airborne vehicle from moving forward off the carriage and one or more other shear pins (352C) keep the carriage/vehicle combination from creeping up the rail before the launch cartridge is fired.

b. No Motivation to Combine Woodland and Ward.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination." *In re Geiger* , 815 F.2d 686, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). "When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why combination of the reference teachings is proper Absent such reasons or incentives, the teachings of the references are not combinable." *Ex parte Skinner*, 2 USPQ2d 1788, 1790 (BPAI 1987).

In the Office Action, the examining attorney states that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the rail of

Ward for the tube of Woodland since it is a mere engineering sizing issue” Applicants’ respectfully traverse.

The tube of Woodland is not a choice that can be discarded for some other choice. Abandoning the tube renders Woodland inoperative for its intended purpose. Woodland states that the “invention relates to **sonotube-compatible** unmanned aerial vehicles adaptable to land, air, sea, and submarine launching....” (Woodland, Col. 1, Lines 6-8) (emphasis added). The track of Ward is wholly incompatible with the purpose of Woodland.

The vehicle of Woodland launches vertically under its own power (*see* Figure 27), or from an underwater buoy (*see* Figure 35), or from a jet (*see* Figure 37). No single embodiment disclosed in Woodland shows a horizontal takeoff from the surface.

Applicants’ do not believe that Woodland and Ward are properly combined and request that the examining attorney explain why combination of the reference teachings is proper.

2. Section 103 Rejection – Woodland in view of Ward and Seigel et al.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woodland in view of Ward and further in view of Siegel et al (4238093).

While making no admission thereto, even assuming that it would have been obvious to combine Siegel with Woodland and Ward, that combination does not render Applicant’s invention obvious. Siegel teaches a piston rod and cylinder pneumatic system utilizing “conventional fluid controls”. (Col. 4, Lines 48-52). In contrast, Applicant’s invention contemplates a cartridge, without a piston, containing a gas propellant to cause the carriage to propel the airborne vehicle. An exemplar of one such cartridge would be a .45 caliber ammunition cartridge. Upon firing of the cartridge, the expelled gas is utilized to propel the carriage down the launch rail. This method of propulsion differs significantly from a standard piston/cylinder system.

3. Section 103 Rejection – Woodland in view of Ward and Adkins.

Claims 13 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woodland in view of Ward and further in view of Adkins et al (4856736).

As noted above, Applicants object to the combination of Woodland and Ward. While making no admission thereto, even assuming that it would have been obvious to combine Adkins with Woodland and Ward, that combination does not render Applicants' invention obvious.

Claim 1 of Applicants' invention calls for wings that are adapted to be removed from the fuselage of the airborne vehicle. Neither Woodland, Ward, nor Adkins disclose wings that are adapted to be removed. Woodland does disclose retractable wings. However, the retractable wings of Woodland are not adapted to be removed and are a necessary expedient to fitting the Woodland vehicle into a launch sonotube.

Because the removability of wings is missing from each of the cited references, the combination cannot render Applicants' invention obvious.

4. Section 103 Rejection – Woodland in view of Ward and Thurber, Jr. et al.

Claims 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woodland in view of Ward and further in view of Thurber, Jr. et al (4530476).

The examining attorney states, without citation, that "the addition of a generator on a gas powered engine [for an unmanned airborne vehicle] is also obvious mechanical expedient." Applicant objects to this assertion and requests citation to supportive prior art.

5. Section 103 Rejections – Woodland and Ward with Others.

All claims stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woodland in view of Ward and further in view of various combinations of Griffin (4678143), Seigel (4238093), Adkins (4856736), and Thurber (4530476). As noted above, Applicants object to the combination of Woodland and Ward. Also as noted above, none of the cited references, nor the combinations thereof, teach all of the limitations of the Applicants' independent claims. Because the combination of Woodland and Ward is not appropriate, and the combinations do not teach all of the limitations of Applicants' invention, the combinations do not render Applicants' invention obvious.

CONCLUSION

Applicants respectfully submit that, in light of the foregoing remarks, the claims are in condition for allowance. A Notice of Allowance is therefore respectfully requested.

If the Examiner has any other matters which pertain to this Application, the Examiner is encouraged to contact the undersigned to resolve these matters by Examiner's Amendment where possible.

The applicant requests a telephone call if there are any problems associated with this Response, as this Response is believed to put the case in condition for allowance.

Respectfully submitted,
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